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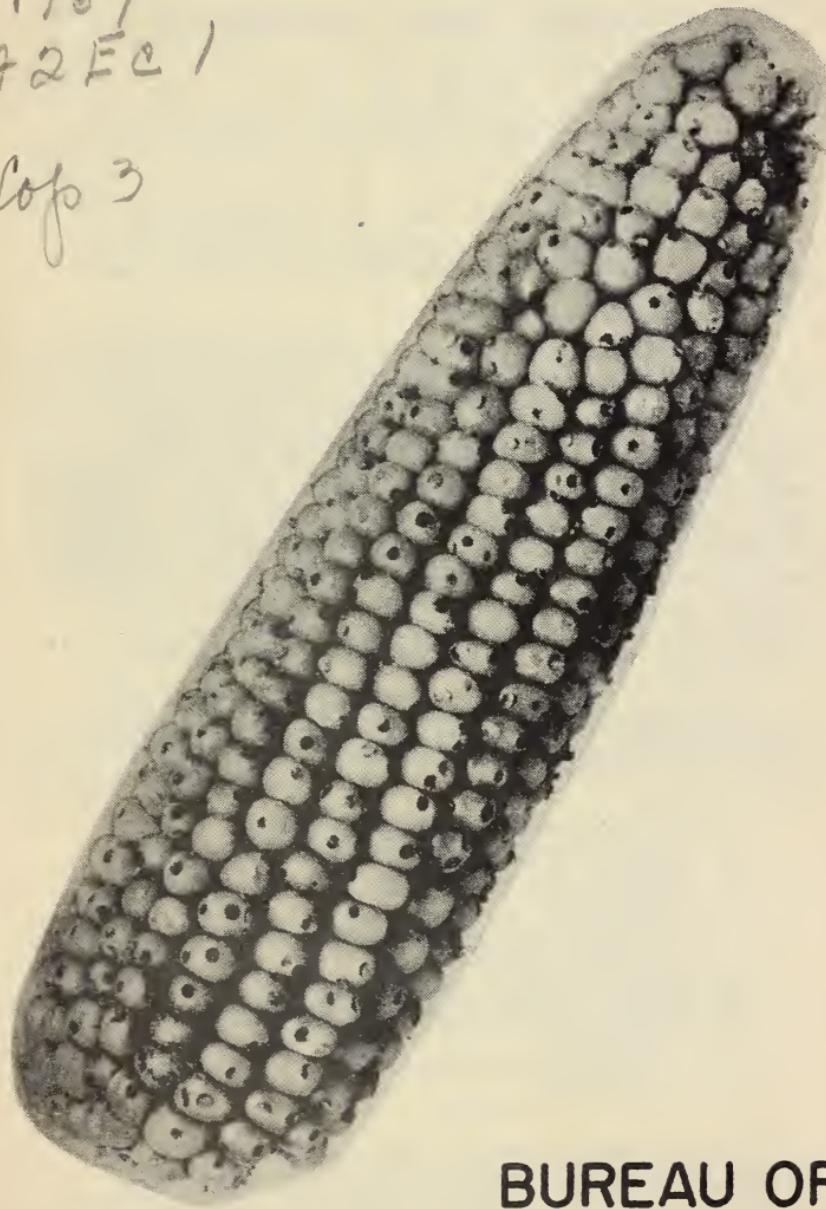
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CONTROL OF INSECTS ATTACKING FARM-STORED CORN

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CONTROL OF INSECTS ATTACKING FARM-STORED CORN

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Insects take a heavy toll of farm-stored corn every year. Yet, these losses can be reduced greatly, and in many cases can be eliminated, through the use of proper control measures.

Southern farmers lose much more farm-stored corn to insects than do northern farmers, largely because of difference in climate and in storage facilities. In the South, the rice weevil, the Angoumois grain moth, and other insects infest the corn in the fields and are brought into the storage cribs along with the ears. The corn normally is stored while in the shuck, in sheds, barns, or loosely constructed cribs. Winter temperatures are not low enough to kill the infestation already present in the ears when they are harvested. A high percentage of southern farm-stored corn is usually damaged or lost before it can be used or sold.

Southern farmers can turn their corn crops into greater profits if they will consistently do the following seven things:

1. Try to prevent field infestations.
2. Plant varieties with long, tight shucks.
3. Harvest corn as soon as it is dry enough to store.
4. Get rid of ears with exposed tips or damaged shucks.
5. Store in clean, weatherproofed cribs.
6. Fumigate stored corn promptly after harvest.
7. Inspect often; refumigate if infestation reappears.

In the North, under the same or better storage conditions than are found in the South, the few insects that are carried with the ears into the cribs are usually killed by low winter temperatures. The principal danger comes from holding corn over a second season. This danger can be overcome by shelling hold-over corn early in the spring, placing it in tight storage, and fumigating it.

CAUTION.--Chemicals used in grain fumigation are poisonous to human beings and animals, so be careful. Avoid breathing the vapors or spilling the fumigants on the skin or clothing.

Prevent Field Infestation

When the corn begins to silk, insects fly to nearby cornfields from infested farm-stored grain and feed, and lay their eggs in or on exposed kernels. By the time the corn is harvested, it may have become very heavily infested. Much of this infestation can be prevented by destroying the insects before they can fly to the fields. All supplies of grain, chicken feed, and other animal feeds should be fed or should be fumigated before the growing corn reaches the tasseling stage. A crop of early maturing corn planted along the margins of cornfields often attracts and traps weevils before they reach the main crop, which later matures. The early trap crop should be harvested quickly and disposed of by feeding, or it should be fumigated.

Plant Tight-Shucked Varieties

A long, tight-fitting, unbroken shuck, extending well beyond the tip of the ear, gives complete protection from the Angoumois grain moth, and gives a high percentage of protection from the rice weevil and other insects. Plant breeders are developing high-yielding varieties with good shuck protection, which is most important when the corn is growing. At harvesttime the shuck should be removed before the corn is cribbed, because it conceals the true condition of the corn and protects weevils that may have reached the ear.

Harvest Corn as Soon as It Is Dry

The longer corn is left in the field, the greater the infestation. Corn should be harvested as soon as it is dry enough for storage. Early harvesting helps prevent infestation.

Store Only Good Ears

Ears having exposed tips, or having shucks that have been damaged mechanically or cut by earworms, are almost certain to be infested with weevils. Such ears should be disposed of soon after harvest by feeding, or they should be fumigated. If the damaged ears are allowed to remain with the good corn they may cause the loss of the whole lot unless it is fumigated.

Good Storage Important

Cribs should be tight enough to protect stored corn from weather and rats. The floor should be high enough to permit the air to circulate underneath. If the floor is on the ground, it should have a moisture-proof barrier to prevent spoilage from excess moisture. Locating cribs away from other farm buildings, especially those where grains and feed are stored, reduces the danger of infestation. Cribs should be cleaned thoroughly and, if possible, treated before new corn is stored in them by spraying with an oil solution or emulsion or a water suspension containing about 2.5 percent DDT at the rate of 2 gallons per 1,000 square feet of surface.

Fumigate Promptly

The best insurance against damage from field infestation is to fumigate corn as soon as possible after harvest. Cribs can be made tight enough to fumigate by lining the floor and walls with a 15-pound asphalted-felt building paper, a lightweight roofing paper, or a fiber-reinforced waterproofed paper. If the corn is dry enough to be stored in a tight crib it can be fumigated in the crib. If it is not dry enough to be stored in a tight crib, it can be fumigated in any tight crib, bin, or room, and then stored in a slat crib. A temporary bin suitable for fumigation may be constructed of slat fencing or similar material, then lined with felt building paper or fiber-reinforced waterproofed paper, and covered with a tarpaulin or with a sheet of the material used to line the bin.

Refumigate When Necessary

Stored corn should be inspected at least once a month during periods when the temperature goes above 70° F. Ordinarily, when corn has been properly fumigated during the fall or winter, it will stay free of serious infestation until warm spring weather comes. At that time insects do their greatest damage. Whenever corn is found to be infested with insects, it should be refumigated.

Fumigants recommended are the 3:1 mixture of ethylene dichloride and carbon tetrachloride and the 1:4 mixture of carbon disulfide and carbon tetrachloride. Seed corn should be treated only with the mixture containing ethylene dichloride since this fumigant does not impair germination.

Dosages required will vary with the tightness of the crib or bin. In steel bins, 3 gallons of either mixture per 1,000 bushels of corn will be effective. In wooden cribs that have been lined to make them tight, twice this dosage is needed. The fumigant should be applied uniformly over the surface of the corn with a bucket pump or other type of sprayer. The fumes are dangerous, therefore the operator should not enter the bin or crib to apply the fumigant.

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